Diamond Knowledge Base

Phoenix Technical Specifications

Features

Count 1 to 16 lanes Count methods include direction, lane subtraction and normal

Classify 1 to 8 lanes Possible sensor arrangements per lane for classification: Two Axle sensors Two presence sensor Two axle sensors and one presence sensor Two presence sensors and one axle sensor Record interval lengths from one minute to 24 hours Phoenix can be programmed to change the length of record interval up to five times during the day. This allows for closer inspection of rush hour traffic patterns if needed.
Two modes of count (1 to 16 lanes) Time Interval Count Mode: The traditional method of time interval counting using the field unit to collect and sort count data by user selectable time intervals. Count methods using two axle sensors per lane (road tube or piezo) include direction and lane subtraction. Time Stamped Sensor Event: Unit stores in its memory the sensor activation with a time stamp accurate to 1/10695 of a second. This recorded sensor data is later fed into your PC computer that processes the data using the software. Three modes of classification (1 to 8 lanes) Binning: User can define 30 speed, 30 axle, 30 headway and 30 gap bins. Default FHWA 13 bin scheme F, European scheme or your custom scheme on can be used. Matrix classification = speed by axle, and/or speed by length. Per-Vehicle Data: Classifier stores in memory for each vehicle: Time stamp to 1/100 of a second, speed to 1/100mph or kph, number of axles, and spacing between axles. Time Stamped Sensor Event: Unit stores in its memory the sensor actuations with a time stamp accurate to 1/10695 of a second. This recorded sensor data is later fed into your PC computer that processes the data using the software.

Memory The Phoenix comes standard with 128K of counter memory Expandable up to 1MB. File storage can be expanded beyond 1MB using the optional TAM card (cards sizes from 256K to 16MB). 16-Key watertight keyboard and LCD display Complete alphabet and numbers keyboard. Default includes a two-line, 32-character LCD display with and option of a four line, 64-character display.
Sensors available 2 or 4 road tube air switches (32 counts per second) 4 to 16 multiplexing presence loop detectors with optional optical isolated outputs 4 or 8 remote contact closures or open collector to external inputs 4 or 8 piezo electric or piezo resistive sensor inputs (adjustable sensitivity compatible with all brands of standard piezos or resistive sensors)

Specifications

Sensor Inputs: 4 air switches (road tube) 32 counts/second, 5-100+ mph (7-150km) Up to 16 presence loop detectors (30-500 microhenry) with optional optically isolated open relay outs. Up to 8 piezo electric sensors Up to 8 Piezo resistive sensors Up to 8 remote switch closures or open collector to ground

Lane Sensors Configurations: (count only) (1-16 lanes) One or two axle sensors for directional, subtractive or normal counts One or two loops for normal or directional counts

Lane Sensor Configuration: classification Loop-loop, loop-axle-loop, axle-axle, axle-loop-axle

Memory: 68K internally expandable to 1MB External Expandable with TAM up to 16MB

Programming: From counter keyboard and display From PC desktop/laptop Remotely via telephone modem

by PC Preset TAM

Recording Time Intervals: 1-5 different intervals selectable from 1-1440 minutes in any 24 hour period

Count Mode Selection: Normal Subtractive Directional

Classification Binning Mode: (1-8 lanes) FHWA scheme “F” default, or user definable tables with up to 30 unique bins in speed, axle, length, gap and headway definitions. Default to European binning scheme available. Optional custom user schemes available.

Individual Vehicle Record Mode: Stores in memory a record of each vehicle to 1/100th of a second; The record contains lane number, time of day, speed, number of axle, axle spacing and type of vehicle

Time Stamped Sensor Mode: Stores each sensor activation by internal crystal clock in memory to 1/10695 of a second

Study Start Selections: Immediately At Midnight At user specified date and time

Study Stop Selections: Immediately 24 hours after start At user specified date and time

Lane Test and Monitoring: All lanes can be monitored, sensor activation tested, and configurations, spacing and IDs verified without interference of data collections. This can be accomplished either from the display or a PC connection (direct or via modem)

Data Collection: PC computer via modem PC desktop/laptop direct connection (RS232) TAM (Take Away Memory) card

Files: Up to 99 individual site files can be stored in memory. At your option the files can be set to replace older files or counter can stop collecting new data when memory is full

File Delete Options: Files can be replaced by older files or automatic deletion at retrieval or deleted by groups or range

Measurements: Imperial (U.S.) or metric speed and distance measurements

Date Format: Selectable to give MM/DD/YY, DD-MM-YY or YY-MM-DD

Keyboard: Complete alphanumeric with punctuation from standard 16 key keyboard No-Keyboard version is available which is controlled by your PC (direct or via modem)

Display: 4-line, 64 Character, alphanumeric LCD display optional 2-line, 32 Character, alphanumeric LCD display

Power: 6 volt, 12-amp hour rechargeable lead acid gel type battery Optional portable dual battery unit Optional portable (mounted on lid) or permanent (pole mounted) solar panels can be ordered. Single unit and gang type battery chargers are available

Power Off Verification: Selectable option that requires the operator to verify turn off the equipment. Prevents false shutdown caused by lightening and static electricity. Prevents accidental turnoff due to inadvertent power switch off activation

Telemetry: Telemetry ready with the addition of an external modem and land line or cellular connection Unit can be programmed for incoming baud rates from 300, 900, 1200, 2400, 4800, 9600, and 19,200 Optional

Master/Slave units available for large or multiple counters located at one site Optional Incident detection available for permanent installations and ITS applications

Construction: 1/8” (3 mm) thick welded and anodized aluminum, with modular plug-in CMOS electronic circuit boards

Climatic Operating Range: -40°F (-40°C) to 165°F (72°C) 0-95% non-condensing relative humidity

FIFO Sensor Inputs: A FIFO (first in, first out) buffer is on all sensors inputs. This helps eliminate sensor misses due to simultaneous activations.

Sensor Miss Errors: Sensor miss errors in binned or raw modes can be: Monitored and stored during data collection Monitored but not stored Not displayed or store

Dimensions: 10 ¼” x 11 ½” x 6 ¾” (26cm x 29cm x 17cm) Weight: 12-16 Lbs (5-7kg)

http://support.diamondtraffic.com/knowledgemanager/questions/49/